

1 CLAIMS:

2
3 1. An apparatus for processing multiple data streams, the apparatus comprising:

- 4 (a) a signal processing arrangement having a first input and a second input associated
5 therewith;
- 6 (b) a first switch connected to the first input and having a first switch output, the first
7 switch for passing signals from the first input to the first switch output in
8 response to an enable signal applied to an enable input associated with the first
9 switch;
- 10 (c) a second switch connected to the second input and having a second switch output,
11 the second switch for passing signals from the second input to the second switch
12 output in response to the enable signal applied to an enable input associated with
13 the second switch;
- 14 (d) a data stream junction connected to the first switch output and the second switch
15 output and having a single junction output connected to the signal processing
16 arrangement; and
- 17 (e) a controller for selectively applying the enable signal to the enable input of one
18 of the first switch and second switch so as to enable one of said switches to pass
19 signals from the respective input to the respective switch output to be applied to
20 the signal processing arrangement through the data stream junction.
- 21
22

1 2. The apparatus of claim 1 wherein:

2 (a) the first input and first switch receives a first plurality of channels and the second
3 input and second switch receives a second plurality of channels different from the
4 first plurality of channels; and

5 (b) the controller includes a processor for receiving a channel select input identifying
6 a particular channel to be processed from among the first and second plurality of
7 channels and, in response to the channel select input, for applying the enable
8 signal to the one of said first switch and said second switch which receives the
9 particular channel, and for controlling the operation of the signal processing
10 arrangement to produce a channel output from the signals which pass through the
11 switch receiving the enable signal.
12

13 3. The apparatus of claim 2 wherein:

14 (a) the controller further includes a memory device associated with the processor, for
15 each different channel select input the memory device storing, for each different
16 channel select input, signal processing information unique to the respective
17 channel associated with the channel select input and signal input information
18 indicating on which input the channel is received; and

19 (b) the processor responds to the channel select input by retrieving the signal input
20 information associated with the particular channel and by applying the enable
21 signal to the switch associated with the input on which the channel is received.
22

1 4. The apparatus of claim 1 wherein the signal processing arrangement includes:

- 2 (a) a full rate tuner and down converter;
3 (b) a demodulator;
4 (c) a forward error correction decoder; and
5 (d) a demultiplexer/format decoder.

6
7 5. The apparatus of claim 1 wherein the signal stream junction comprises:

- 8 (a) an impedance matching amplifier.

9
10
11 6. The apparatus of claim 1 wherein:

- 12 (a) the first input is connected to receive signals from a first antenna; and
13 (b) the second input is connected to receive signals from a second antenna.

14 7. The apparatus of claim 1 wherein:

- 15 (a) the first input receives signals in a first frequency band having a plurality of
16 carrier frequencies; and
17 (b) the second input receives signals in substantially the first frequency band on
18 substantially the same carrier frequencies as those received by the first input.

19
20 8. An apparatus for processing multiple data streams, the apparatus comprising:

- 21 (a) a receiver for processing a single data stream to provide a receiver output;
22 (b) a plurality of input paths, each for carrying a data stream to the receiver;

- 1 (c) a plurality of switches including a different switch connected in each different
2 input path, each respective switch for blocking the data stream on the respective
3 input path in the absence of an enable signal applied to said respective switch; and
4 (f) a controller for selectively applying the enable signal to one of the switches to
5 enable a desired one of the data streams to reach the receiver.

6
7 9. The apparatus of claim 8 wherein:

- 8 (a) each data stream comprises a unique plurality of channels; and
9 (b) the controller includes a processor for receiving a channel select input identifying
10 a particular channel to be processed from among the different plurality of
11 channels and, in response to the channel select input, for applying the enable
12 signal to the switch associated with input path carrying the data stream in which
13 the particular channel is contained, and for controlling the operation of the
14 receiver to produce as the receiver output a channel output for the particular
15 channel.

16
17 10. The apparatus of claim 9 wherein:

- 18 (a) the controller further includes a memory device for storing a plurality of channel
19 identifiers, each channel identifier associated with a different channel select input,
20 and for each channel identifier the memory device further storing signal
21 processing information unique to a particular one of the channels, and input

1 information indicating on which input path the data stream including the particular
2 channel is carried; and

- 3 (b) the processor responds to the channel select input by retrieving the signal
4 processing information associated with the respective channel and applying the
5 enable signal to the switch associated with the data stream in which the channel
6 is contained.

7
8 11. The apparatus of claim 8 wherein the signal processing arrangement includes:

- 9 (a) a full rate tuner and down converter;
10 (b) a demodulator; and
11 (c) a forward error correction decoder.

12 12. The apparatus of claim 8 further comprising:

- 13 (a) an impedance matching amplifier adapted to receive signals from each input path
14 and apply signals from one of said paths to the receiver at a matched impedance.

15
16
17 13. The apparatus of claim 8 wherein:

- 18 (a) each data stream comprises signals from a different antenna.

19
20 14. The apparatus of claim 8 wherein:

- 21 (a) each data stream comprises signals in substantially a first frequency band having
22 a plurality of carrier frequencies.

1 15. The apparatus of claim 14 wherein:

2 (a) each data stream utilizes substantially the same carrier frequencies.

3
4 16. A method for processing multiple data streams, the method comprising the steps of:

5 (a) directing a plurality of different data streams each along a different input path to
6 a receiver;

7 (b) selectively blocking each of the data streams except one data stream so that only
8 one data stream is applied to the receiver at a given time; and

9 (c) processing the one data stream applied to the receiver to produce a desired
10 channel output from said data stream.

11
12
13
14
15
16 17. The method of claim 16 wherein each data stream includes a plurality of different
17 channels, each different channel associated with a different channel identifier, and
18 wherein the step of selectively blocking each data stream except one data stream
19 comprises:

20 (a) receiving a channel select input indicating the channel identifier of a desired
21 channel;

22 (b) utilizing the channel identifier of the desired channel to identify the particular data
stream which includes the desired channel; and

(c) applying an enable signal only to a switch associated with the data stream which
includes the desired channel to enable said data stream to be applied to the
receiver.

1 18. The method of claim 17 further comprising the steps of:

- 2 (a) utilizing the channel identifier of the desired channel to recall from a memory
3 storage device signal processing information unique to the desired channel and
4 which may be utilized by the receiver to produce the desired channel output from
5 the data stream which includes the desired channel; and
6 (b) controlling the receiver with the signal processing information to produce the
7 desired channel output.
8

9 19. The method of claim 16 wherein:
10
11
12
13
14
15

- (a) each data stream comprises signals in substantially a first frequency band having
a plurality of carrier frequencies.

20. The method of claim 19 wherein:

- (a) each data stream utilizes substantially the same carrier frequencies.

add Q5